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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/726,371	12/02/2003	Kenji Suzuki	96790P445	7125

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EXAMINER
VLAHOS, SOPHIA

ART UNIT	PAPER NUMBER
2611	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/726,371	SUZUKI ET AL.	
	Examiner	Art Unit	
	SOPHIA VLAHOS	2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 December 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-67* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *1,66 and 67* is/are allowed.

6)☒ Claim(s) *2-65* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *02 December 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *12/18/06, 12/20/05, 12/02/03*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. Figures 38-40A, 40B should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

2. Claims 3, 11, 13, 15, 17, 28, 30, 32 are objected to because of the following informalities:

Claim 3 recites (lines 8, 10, 21,22) the term "openably"

Claim 11 recites (lines 10,11, 23,24) the term "openably"

Claim 13 recites (lines 10,11, 21,22) the term "openably"

Claim 15 recites (lines 8,10, 21,22) the term "openably"

Claim 17 recites (lines 8,10, 21,22) the term "openably"

Claim 28 recites (lines 10,12, 23,24) the term "openably"

Claim 30 recites (lines 10,12,23,24) the term "openably"

Claim 32 recites (lines 10,12,23,24) the term "openably"

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 2-4, 7, 10-18, 21, 24, 27-33, 36, 39 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 2 recites the limitation "the baseband signal" in line 7 of the claim.

Claim 3 recites the limitations: “the first spreading code” (lines 4-5) and “the second spreading code” (lines 15-16) however claim 1, mentions “N first spreading codes” and N” second spreading codes”.

Claim 4 recites the limitation: “the baseband signal” in line 6 of the claim.

Claim 7 recites the limitation: “the baseband signal” in line 5 of the claim.

Claim 10 recites the limitation: “the baseband signal” in line 5 of the claim.

Claim 11 recites the limitations: “the first spreading code” (lines 6-7) and “the second spreading code” (lines 17-18) however claim 10, mentions “N first spreading codes” and N” second spreading codes”.

Claim 12 recites the limitation: “the baseband signal” in line 7 of the claim.

Claim 13 recites the limitations: “the first spreading code” (lines 4-5) and “the second spreading code” (lines 15-16) however claim 12, mentions “N first spreading codes” and N” second spreading codes”.

Claim 14 recites the limitation: “the baseband signal” in line 7 of the claim

Claim 15 recites the limitations: "the first spreading code" (lines 4-5) and "the second spreading code" (lines 15-16) however claim 14, mentions "N first spreading codes" and N" second spreading codes".

Claim 16 recites the limitation: "the baseband signal" in line 7 of the claim.

Claim 17 recites the limitations: "the first spreading code" (lines 4-5) and "the second spreading code" (lines 15-16) however claim 16, mentions "N first spreading codes" and N" second spreading codes".

Claim 18 recites the limitation: "the baseband signal" in line 6 of the claim.

Claim 21 recites the limitation: "the baseband signal" in line 6 of the claim.

Claim 24 recites the limitation: "the baseband signal" in line 6 of the claim.

Claim 27 recites the limitation: "the baseband signal" in line 5 of the claim.

Claim 28 recites the limitations: "the first spreading code" (lines 6-7) and "the second spreading code" (lines 17-18) however claim 27, mentions "N first spreading codes" and N" second spreading codes".

Claim 29 recites the limitation: "the baseband signal" in line 5 of the claim.

Claim 30 recites the limitations: "the first spreading code" (lines 6-7) and "the second spreading code" (lines 17-18) however claim 29, mentions "N first spreading codes" and N" second spreading codes".

Claim 31 recites the limitation: "the baseband signal" in line 5 of the claim.

Claim 32 recites the limitations: "the first spreading code" (lines 6-7) and "the second spreading code" (lines 17-18) however claim 31, mentions "N first spreading codes" and N" second spreading codes".

Claim 33 recites the limitation: "the baseband signal" in line 5 of the claim.

Claim 36 recites the limitation: "the baseband signal" in line 5 of the claim.

Claim 39 recites the limitation: "the baseband signal" in line 5 of the claim.

There is insufficient antecedent basis for this limitation in the above claims.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Imaizumi et. al., (U.S. 6,707,844) in view of Motegi et. al., (U.S. 6,490,316) and Zscheile et. al., (U.S. 5,504,787)

With respect to claim 4, Imaizumi et. al., disclose: N (N is an integer not less than 2) sample/hold circuits each of which samples/holds a received spread signal in synchronism with a clock used to spread the baseband signal (Fig. 2, matched filter of Fig. 1, see plurality of S/H elements, receiving the Data signal (CDMA modulated (spread) signal), see column 10, lines 13-38, and with respect to the claimed "in synchronism with a clock used to spread the baseband signal", see column 10, lines 31-36, where the spread signal is held for one chip time, and the chip time corresponds to the chip time (chip rate) of the spreading code used at the transmitter to spread the

(baseband) signal that has chip rate); a spreading code generating circuit which generates N spreading codes (Fig. 1, spreading code generator, and see N plurality spreading codes shown in Fig. 2) ; N multipliers which multiply signals output from said sample/hold circuits and spreading codes output from said spreading code generating circuit for each corresponding signal (see Fig. 2, plurality of multipliers numbered "42"); an adder which adds outputs from said N multipliers (Fig. 2, adder "43"); a peak detector which detects a peak of an output from said adder and demodulates a data signal on the basis of the detected peak (profiler unit and controller, column 1, lines 62-67, column 2, lines 1-5, column 6, lines 45-54, and see column 13, lines 61-64 where correlation is based on peak detection, and see column 1, lines 65-67, column 2, lines 1-15 where the dispreading means (whose function is controlled by controller of Fig. 2, that supplies the stop signal and controls the spreading code generator) is used to demodulate (in combination with the Rake and Decoder blocks of Fig.1) the incoming signal);

Imaizumi et. al., do not expressly teach: in synchronism with a first clock; in synchronism with a second clock; and a clock control circuit which controls inputting of the second clock to said spreading code generating circuit in accordance with detection of the peak by said peak detector.

In the same field of endeavor, Motegi et. al., discloses: N sample/hold circuits each of which samples/holds a received spread signal in synchronism with a first clock signal (Fig. 1, register 10,where the N flip-flops corresponds to the sample/hold circuits, and see that the N flip flops are clocked via clock input 2).

At the time of the invention, it would have been obvious to a person skilled in the art at the time of the invention, to modify the system of Imaizumi et. al., based on the teachings of Motegi et. al., so that the N sample/hold circuits (Imaizumi et. al., does not disclose specific details about the sample/hold blocks) are implemented in synchronism with a first clock (the clock signal supplied to the flip-flops of Fig.1 of Motegi) and the motivation to perform such a modification is the sample/hold circuits (i.e. flip-flops that are clocked by a first clock signal) are widely available and cheap electronic components.

In the same field of endeavor, Zscheile et. al., disclose: in synchronism with a second clock signal (see Fig. 1, PN generator coupled via switch to 43 to clock signal 42 (during acquisition) column 2, lines 48-52, 60-67, the (PN generator functions based on clock signal)); a clock control circuit which controls inputting of the second clock to said spreading code generating circuit in accordance with detection of the peak by said peak detector (Fig. 1, blocks 18, "threshold" and 22 "switch control", column 2, lines 22-29).

Therefore at the time of the invention, it would have been obvious to a person skilled in the art to modify the system of Imaizumi et. al., (that includes a spreading code generator) based on the teachings of Zscheile et. al., so that it includes a clock control circuit which controls inputting of the second clock to said spreading code generating circuit in accordance with detection of the peak by said peak detector, for switching between acquisition and lock condition, to speed up spreading code (PN) acquisition (Zscheile et. al., column 1, lines 33-35).

Allowable Subject Matter

Claims 1, 66,67 are allowed over prior art. Independent claims 2, 7, 10, 12, 14, 16, 18, 21, 24, 27, 29, 31, 33, 36 and their respective dependent claims would be allowable if the objections and U.S.C 112 second paragraph rejections are overcome.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SOPHIA VLAHOS whose telephone number is 571 272 5507. The examiner can normally be reached on MTWRF 8:30-17:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammed Ghayour can be reached on 571 272 3021. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SV
5/10/2007

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SUPERVISORY PATENT EXAMINER